THE "SNOW COUNTRY" OF CENTRAL NEW YORK.

In the MONTHLY WEATHER REVIEW for December, 1901, p. 563, there is an article on "The Influence of small lakes on local climate," having especial reference to the lakes of central and western New York. The heavy snowfall in this section of New York was partly explained in the MONTHLY WEATHER REVIEW for September, 1901, p. 422. Dr. M. A. Veeder communicates the following additional information relative to this subject:

In Oneida County, N. Y., along the line of the Utica and Black River Railroad, between Renisen and Boonville, there is a region popularly known as "Snow Country." It is situated at the parting of the streams, and quite abruptly reaches an elevation of from 1,200 to 1,500 feet above sea level, being the highest land near Lake Ontario. The great amount of snow appears to be due to the fact that the winds that sweep across the lake are forced to a higher level by this elevated land surface. It seems to be a well defined local peculiarity.—*H. H. K.*

NATIONAL BUREAU OF STANDARDS.

The following is a brief abstract of a circular of information issued by the National Bureau of Standards.—*C. F. M.*

The Bureau was established by an Act of Congress, approved March 3, 1901, by virtue of which the old Office of Standard Weights and Measures of the Treasury Department was superseded by the National Bureau, with greatly enlarged powers and duties. Generous provision was made for the purchase of a site for buildings removed from mechanical and electrical disturbances likely to interfere with the delicate work of the Bureau. The laboratory and power house are being planned with a view to future enlargement, and it is expected they will be ready for occupancy by January 1, 1903.

The functions of the Bureau are embraced in three heads, as follows:

(1) The comparison with authorized standards and the testing and calibration of all classes of measuring apparatus employed in science, engineering, manufacture, commerce, the arts, and education.

(2) The construction of standards, their multiples and submultiples, and the solution of problems which arise in connection with standards.

(3) The determination of physical constants and the properties of materials when such data are of great importance to scientific or manufacturing interests and are not to be obtained of sufficient accuracy elsewhere.

Pending the completion of the new laboratories, the Bureau now occupies the old Office of Standard Weights and Measures, and is prepared to take up only a limited amount and kind of work, consisting of the comparison of the standard and measuring instruments named below:

Length measures.—Standard bars from 1 to 10 feet, or from 1 decimeter to 5 meters; base bars; bench standards; leveling rods; graduated scales; engineers' and surveyors' metal tapes 1 to 300 feet, or from 1 to 100 meters.

Weights.—From 0.01 grain to 50 pounds, or from 0.1 milligram to 20 kilograms.

Capacity measures.—From 1 fluid ounce to 5 gallons, or from 1 milliliter to 10 liters.

Thermometers.—Between 32° and 120° Fahrenheit, or 0° to 50° centigrade.

Polariscopic apparatus.—Scales of polariscopes, quartz control plates, and other accessory apparatus.

Hydrometers.—Alcoholometers, salinometers, and saccharometers, whose scales correspond to densities between 0.85 and 1.20.

Resistances.—Standard coils of the following denominations: 1, 2, 5, 10, 100, 1,000, 10,000, 100,000 ohms; low-resistance standards for current measurements of the following denominations: 0.1, 0.01, 0.001, 0.0001 ohms. Coils of resistance boxes; potentiometers; ratio coils.

Standards of electro-motive force.—Clark and other standard cells.

Direct-current measuring apparatus.—Millivoltmeters and voltmeters up to 150 volts; ammeters up to 50 amperes.

It is the desire of the Bureau to cooperate with manufacturers, scientists, and others, in bringing about more satisfactory conditions relative to weights and measures in the broader meaning of the term, and to place at the disposal of those interested such information relative to these subjects as may be in possession of the Bureau. All communications and articles should be addressed "National Bureau of Standards, Washington, D. C."

THE WEATHER OF THE MONTH.

By Prof. ALFRED J. HENRY, in charge of Division of Records and Meteorological Data.

CHARACTERISTICS OF THE WEATHER FOR MARCH.

The weather of February, 1902, was characterized by low temperatures and great dryness in the interior of the country and heavy precipitation on both coasts. The weather of March, 1902, as regards temperature, stands out in strong contrast to that of the preceding month. The temperature was above the seasonal average in all parts of the country, except the middle Rocky Mountain region and thence westward to the coast. The weather in the Lake region was unusually open and pleasant, and gave promise of a speedy opening of interlake navigation. The precipitation was generally above the seasonal average, except in the Ohio Valley and the Lake region. A notable characteristic of the month was the persistence of southwestern storms and the heavy snowfall along the Appalachians from eastern Tennessee to New England.

PRESSURE.

The distribution of monthly mean pressure is shown graphically on Chart IV and the numerical values are given in Tables I and VI.

There was a sharp reaction from the pressure conditions which prevailed in February, 1902. It may be remembered that pressure was unusually low off both coasts and high in the interior. During the current month there was a sharp rise of pressure on both coasts and a fall in the interior, the rise amounting to 0.3 inch over the Canadian Maritime Provinces and about 0.15 inch along the north Pacific coast. Pressure was lower in the interior of the country by amounts ranging on the average from one to two-tenths of an inch. Monthly mean pressure was generally below the average in all parts of the country, except the Canadian Maritime Provinces and the California coast.

TEMPERATURE OF THE AIR.

The distribution of monthly mean surface temperature, as deduced from the records of about 1,000 stations, is shown on Chart VI.

As stated under characteristics of the weather, the month was unusually warm in all districts, except the middle Rocky Mountain and Plateau regions and the Pacific coast. The greatest positive departures occurred in the Lake region, where the temperature was as much as 10° to 12° above the seasonal average. No unusual maximum temperatures were recorded.

A rather severe cold wave for the season swept over the country on the 16th, 17th, and 18th. Temperatures as low as 25° below zero were recorded in North Dakota and northern Minnesota. Freezing temperatures were also recorded in the South Atlantic States, but not in Florida or along the immediate Gulf coast.

The average temperature for the several geographic districts and the departures from the normal values are shown in the following table:

Average temperatures and departures from normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since January 1.	Average departures since January 1.
		°	°	°	°
New England	8	39.7	+7.4	+ 6.4	+2.1
Middle Atlantic	12	44.7	+5.3	− 2.0	−0.7
South Atlantic	10	54.5	+0.9	− 9.7	−3.2
Florida Peninsula	8	66.0	+0.5	− 7.7	−2.6
East Gulf	9	58.9	+0.6	− 9.4	−3.1
West Gulf	7	59.7	+1.9	− 3.2	−1.1
Ohio Valley and Tennessee	11	46.7	+2.7	− 7.8	−2.6
Lower Lake	8	39.3	+7.0	+ 1.9	+0.6
Upper Lake	10	34.8	+8.2	+12.4	+4.1
North Dakota	8	27.2	+7.0	+20.0	+6.7
Upper Mississippi Valley	11	41.4	+5.5	+ 4.3	+1.4
Missouri Valley	11	40.5	+5.1	+ 7.8	+2.6
Northern Slope	7	33.6	+1.8	+12.4	+4.1
Middle Slope	6	44.5	+2.4	+ 4.0	+1.3
Southern Slope	6	52.2	+1.5	+ 3.0	+1.0
Southern Plateau	13	44.2	−4.0	− 0.2	−0.1
Middle Plateau	9	35.2	−2.5	+ 5.8	+1.9
Northern Plateau	12	38.3	+0.9	+ 8.8	+2.9
North Pacific	7	43.9	−1.3	+ 3.9	+1.3
Middle Pacific	5	50.4	−1.9	− 0.7	−0.2
South Pacific	4	53.6	−1.9	+ 0.3	+0.1

In Canada.—Prof. R. F. Stupart says:

The mean temperature was higher than average throughout the Dominion, except in the northern parts of British Columbia and Alberta, where it was below. A positive departure of 6° in the central part of the Northwest Territories increased eastward to 14° at Winnipeg, and apparently to a larger amount in the extreme northern parts of Ontario and Quebec. In Ontario, south of the Georgian Bay, in the St. Lawrence Valley, and in the Maritime Provinces the positive departure was from 7° to 10°. At Dawson, Yukon, the mean of the month was −8°, about 12° below average.

PRECIPITATION.

The month, as a whole, was a wet one. In all districts, except the northern Plateau, the precipitation equaled or exceeded 80 per cent of the normal. In New England and the northern slope 159 per cent of the normal was recorded, while in North Dakota 270 per cent of the normal was registered. Monthly amounts exceeding 10 inches were recorded at a number of stations in southwestern Georgia, central Alabama, eastern Tennessee, central and northern Mississippi, and northeastern Louisiana. The rainfall on the Pacific coast was also abundant. Heavy rains also fell on the coast of Maine, the monthly amounts in a few places exceeding 12 inches.

Average precipitation and departure from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
		Inches.		*Inches.*	*Inches.*
New England	8	6.23	159	+2.3	+1.0
Middle Atlantic	12	3.48	90	−0.4	−0.1
South Atlantic	10	3.73	82	−0.8	−2.7
Florida Peninsula	8	3.66	124	+0.7	+0.3
East Gulf	9	7.47	129	+1.7	+0.3
West Gulf	7	3.21	94	−0.2	−3.0
Ohio Valley and Tennessee	11	4.03	93	−0.3	−3.9
Lower Lake	8	2.29	88	−0.3	−2.7
Upper Lake	10	1.92	95	−0.1	−2.2
North Dakota	8	2.38	270	+1.5	+1.4
Upper Mississippi Valley	11	2.01	118	+0.3	−1.5
Missouri Valley	11	1.81	100	0.0	−0.8
Northern Slope	7	1.35	159	+0.5	−0.2
Middle Slope	6	1.80	138	+0.5	−0.5
Southern Slope	6	2.31	208	+1.2	−0.5
Southern Plateau	13	0.93	100	0.0	−0.9
Middle Plateau	8	1.32	108	+0.1	−0.3
Northern Plateau	12	0.93	61	−0.6	−1.0
North Pacific	7	6.49	118	+1.0	+4.3
Middle Pacific	5	3.72	93	−0.3	+2.2
South Pacific	4	2.67	118	+0.4	+0.4

More than a foot of snow was measured along the Appalachians from eastern Tennessee to the White Mountains in New England. Very little snow, however, fell east of the mountains and in the central valleys. In the mountain districts westward there was a fair amount of snow, except in southern Nevada and in Arizona. At the close of the month there was no snow on the ground, except locally in the mountain districts, in central New York, central Pennsylvania, the mountain districts of West Virginia, and in lower Michigan and North Dakota.

In Canada.—Professor Stupart says:

The precipitation was largely in excess of average in Quebec and the Maritime Provinces, where it was for the most part rain, also in western Manitoba and eastern Assiniboia, where it was for the most part snow. The only pronounced deficiency occurred in Alberta; in other parts of the Dominion, not named above, departures from average were small. At the close of the month the eastern portions of Saskatchewan and Assiniboia and the larger portion of Manitoba were covered with recently fallen snow, which would quickly disappear. Eastern Quebec was still snow covered, as much as 12 inches being reported from Father Point. Elsewhere in the Dominion the ground was bare, and in the more southern districts the frost was out of the ground.

SLEET.

The following are the dates on which sleet fell in the respective States:

Alabama, 2. Arizona, 2, 10, 24, 25. California, 2, 5, 7, 8, 9, 13, 22. Colorado, 13, 20, 24, 25. Connecticut, 5, 7, 8, 11, 14, 17, 19, 27. District of Columbia, 5. Idaho, 1, 2, 8, 9, 13, 14, 19, 23, 27, 28. Illinois, 1, 12, 19, 20, 27, 30. Indiana, 30, 31. Iowa, 10, 11, 15, 20, 24, 30, 31. Maine, 9, 19, 20, 31. Maryland, 4, 5, 6. Massachusetts, 19, 27. Michigan, 1, 8, 30, 31. Minnesota, 20, 26, 27, 28. Mississippi, 4. Missouri, 4, 12, 29, 30. Nebraska, 14, 29, 31. Nevada, 1, 8, 9, 14, 15, 19. New Hampshire, 1, 9, 19, 31. New Jersey, 5, 6, 13, 16, 19, 22, 25, 27, 31. New Mexico, 3, 11. New York, 13, 19, 20. North Carolina, 2, 4, 5, 17. North Dakota, 14, 15, 30, 31. Ohio, 1, 30, 31. Oregon, 1, 12, 13, 15, 21. Pennsylvania, 2, 5, 13, 14, 30, 31. South Dakota, 6, 14, 15, 21, 25, 28, 29, 30. Tennessee, 1, 2, 4, 5. Texas, 4. Utah, 9, 13, 14, 18, 19, 23, 24. Vermont, 17. Virginia, 4, 5, 15. Washington, 3, 6, 12, 13, 14, 15, 17, 21, 26. West Virginia, 3, 4, 15. Wisconsin, 1, 20, 30. Wyoming, 1, 21.

HAIL.

The following are the dates on which hail fell in the respective States:

Alabama, 1, 2, 4, 15, 21, 28. Arizona, 24, 25. California, 1, 2, 5, 6, 8, 9, 13, 14, 19, 20, 22, 23, 24, 25. Colorado, 23. Delaware 2, 4. Florida, 1. Georgia, 1, 2, 12, 15, 21, 29. Illinois, 12, 14, 15, 16, 26, 27, 29, 30. Indiana, 12, 15, 29, 30, 31. Indian Territory, 29. Iowa, 15, 28. Kansas, 25. Kentucky, 12, 15, 16, 30. Louisiana, 1, 14, 20, 25, 27, 28. Maryland, 4, 5, 13, 17, 30. Mississippi, 1, 14, 15, 16, 21, 23, 26, 27, 28. Nebraska, 10, 11, 14, 24, 25, 26, 27. Nevada, 20. New York, 5, 13, 20, 30, 31. Ohio, 12, 29, 30, 31. Oklahoma, 20, 25, 26, 28, 29. Oregon, 2, 3, 4, 6, 7, 8, 9, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 25, 27. Pennsylvania, 1, 5, 12, 29, 30. South Carolina, 1, 16, 29. South Dakota, 25, 30. Tennessee, 8, 12, 28. Texas, 11, 17, 20, 21, 23, 25, 27, 28, 29. Utah, 2, 3, 6, 9, 11, 19, 21, 23, 24, 26, 27, 29. Virginia, 30. Washington, 1, 2, 4, 8, 12, 13, 14, 15, 17, 18, 19, 20, 21, 25, 27 West Virginia, 2, 12, 13, 30, 31.

HUMIDITY.

The average by districts appear in the subjoined table:

Average relative humidity and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
	%			%	
New England	80	+ 5	Missouri Valley	69	− 3
Middle Atlantic	74	+ 3	Northern Slope	68	+ 2
South Atlantic	75	+ 1	Middle Slope	60	0
Florida Peninsula	78	0	Southern Slope	47	− 9
East Gulf	74	0	Southern Plateau	42	+ 2
West Gulf	68	− 2	Middle Plateau	59	+ 5
Ohio Valley and Tennessee	71	+ 1	Northern Plateau	66	− 4
Lower Lake	76	0	North Pacific	78	− 2
Upper Lake	77	− 1	Middle Pacific	72	− 4
North Dakota	80	+ 3	South Pacific	70	− 4
Upper Mississippi Valley	74	+ 3			

SUNSHINE AND CLOUDINESS.

The distribution of sunshine is graphically shown on Chart VII, and the numerical values of average daylight cloudiness, both for individual stations and by geographical districts, appear in Table I.

The averages for the various districts, with departures from the normal, are shown in the table below:

Average cloudiness and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	6.3	+ 0.7	Missouri Valley	5.6	0.0
Middle Atlantic	5.6	+ 0.1	Northern Slope	5.6	+ 0.3
South Atlantic	4.9	+ 0.2	Middle Slope	4.7	+ 0.3
Florida Peninsula	4.1	+ 0.1	Southern Slope	4.2	0.0
East Gulf	5.6	+ 0.9	Southern Plateau	3.3	+ 0.3
West Gulf	4.7	− 0.5	Middle Plateau	5.4	+ 0.5
Ohio Valley and Tennessee	6.1	+ 0.2	Northern Plateau	6.8	+ 0.3
Lower Lake	6.3	− 0.1	North Pacific	7.6	+ 1.0
Upper Lake	5.9	0.0	Middle Pacific	4.3	− 0.7
North Dakota	6.3	+ 0.8	South Pacific	4.0	− 0.5
Upper Mississippi Valley	6.4	+ 0.9			

ATMOSPHERIC ELECTRICITY.

Numerical statistics relative to auroras and thunderstorms are given in Table IV, which shows the number of stations from which meteorological reports were received, and the number of such stations reporting thunderstorms (T) and auroras (A) in each State and on each day of the month, respectively.

Thunderstorms.—Reports of 2,035 thunderstorms were received during the current month as against 1,596 in 1901 and 975 during the preceding month.

The dates on which the number of reports of thunderstorms for the whole country were most numerous were: 30th, 213; 12th, 179; 28th, 172.

Reports were most numerous from: Missouri, 153; Nebraska, 126; Mississippi, 110.

Auroras.—The evenings on which bright moonlight must have interfered with observations of faint auroras are assumed to be the four preceding and following the date of full moon, viz: 19th to 27th.

In Canada: Thunderstorms were reported at Quebec, 2d, Toronto, 11th; Port Stanley, 1st, 13th; Parry Sound, 11th; Hamilton, Bermuda, 3d, 18th, 31st; Port Simpson, 26th. Auroras were reported as follows: Father Point, 24th; Port Arthur, 12th; Minnedosa, 12th; Swift Current, 31st; Prince Albert 10th.

WIND.

The maximum wind velocity at each Weather Bureau station for a period of five minutes is given in Table I, which also gives the altitude of Weather Bureau anemometers above ground.

Following are the velocities of 50 miles and over per hour registered during the month:

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Amarillo, Tex	4	51	nw.	Mount Tamalpais, Cal	23	50	nw.
Do	11	55	ne.	Do	24	50	nw.
Do	15	50	sw.	Do	25	72	nw.
Do	23	50	se.	Do	31	53	sw.
Do	25	51	sw.	New York, N. Y	5	50	ne.
Block Island, R. I	5	60	ne.	Do	13	51	nw.
Do	19	72	ne.	Do	18	52	nw.
Buffalo, N. Y	12	52	sw.	Do	19	74	nw.
Do	17	52	w.	Point Reyes Light, Cal	2	75	nw.
Cape Henry, Va	19	57	nw.	Do	5	92	sw.
Carson City, Nev	2	64	sw.	Do	7	60	sw.
Do	13	50	w.	Do	8	68	sw.
Chicago, Ill	16	57	w.	Do	9	66	nw.
Cleveland, Ohio	30	56	sw.	Do	10	66	nw.
Denver, Colo	15	54	nw.	Do	12	74	nw.
El Paso, Tex	3	54	w.	Do	13	72	nw.
Do	6	55	sw.	Do	14	60	nw.
Do	14	57	sw.	Do	15	58	nw.
Do	29	50	w.	Do	19	66	nw.
Fort Worth, Tex	11	52	s.	Do	20	60	nw.
Huron, S. Dak	16	55	nw.	Do	21	68	nw.
Independence, Cal	13	56	w.	Do	22	60	nw.
Lexington, Ky	30	55	w.	Do	23	50	nw.
Minneapolis, Minn	15	50	s.	Do	24	55	nw.
Mount Tamalpais, Cal	1	71	sw.	Do	25	62	nw.
Do	2	58	sw.	Sacramento, Cal	2	62	s.
Do	8	51	sw.	Sioux City, Iowa	14	52	s.
Do	13	80	nw.	Do	16	58	nw.
Do	14	55	nw.	Do	30	51	nw.
Do	15	55	nw.	Williston, N. Dak	16	60	n.
Do	18	56	nw.	Winnemucca, Nev	2	60	sw.
Do	21	52	nw.	Do	6	50	sw.

DESCRIPTION OF TABLES AND CHARTS.

By ALFRED J. HENRY, Professor of Meteorology.

For description of tables and charts see page 570 of REVIEW for December, 1901.